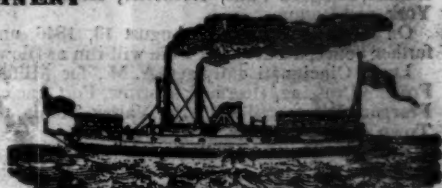


AMERICAN RAILROAD JOURNAL, AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY
AND MINES.

ESTABLISHED 1831.



PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS PER ANNUM.

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SATURDAY, MAY 29, 1847.

[WHOLE No. 571, VOL. XX.

AMERICAN RAILROAD JOURNAL.
Office at the Franklin House,
105 Chestnut Street,
PHILADELPHIA, P.A.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, in advance.

RATES OF ADVERTISING.

One page per annum.....	\$125 00
One column ".....	50 00
One square ".....	15 00
One page per month.....	20 00
One column ".....	8 00
One square ".....	2 50
One page, single insertion.....	8 00
One column ".....	3 00
One square ".....	1 00
Professional notices per annum.....	5 00

BOSTON AND PROVIDENCE RAILROAD. Passenger Notice. Summer Arrangement. On and after Monday, Sept. 28, 1846, the Passenger Trains will run as follows:

For New York—Night Line, via Stonington. Leaves Boston every day, but Sunday, at 5 p.m. Accommodation Trains, leave Boston at 7 1/2 a.m. and 3 1/2 p.m., and Providence at 8 a.m. and 3 1/2 p.m. Dedham trains, leave Boston at 9 a.m.; 3 p.m., 5 1/2 p.m., and 10 1/2 p.m. Leave Dedham at 8 a.m. and 4 1/2 and 9 p.m. Stoughton trains, leave Boston at 11 1/2 a.m. and 4-10 p.m. Leave Stoughton at 8 a.m. and 2 1/2 p.m. All baggage at the risk of the owners thereof.

W. RAYMOND LEE, Sup't.
BRANCH RAILROAD AND STAGES Connecting with the Boston and Providence Railroad. Stages connect with the Accommodation trains at the Foxboro' Station, to and from Woonsocket. At the Seekonk Station, to and from Lonsdale, R. I. via Pawtucket. At the Sharon Station, to and from Walpole, Mass. And at Dedham Village Station, to and from Medford, via Medway, Mass. At Providence, to and from Bristol, via Warren, R. I.—Taunton, New Bedford and Fall River cars run in connection with the accommodation trains.

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A.M.

The Train from Philadelphia arrives at Reading at 12 18 M.
The Train from Pottsville arrives at Reading at 10 43 A.M.

	Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville,	92	\$3.50 and \$3.00		
" " Reading,	58	2.25 and 1.90		
" " Pottsville	34	1.40 and 1.20		

Five minutes allowed at Reading; and three at other way stations.
Passenger Depot in Philadelphia corner of Broad and Vine streets.

LEXINGTON AND OHIO RAILROAD. Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare \$1.25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and ma. 9. from Frankfort, other hours as above.

351y
BOSTON AND MAINE RAILROAD. Upper Route, to Portland and the East.

SUMMER ARRANGEMENT,
April 1, 1847.

PORTLAND TRAINS.
Leave Boston at 7 A.M. and 2 1/2 P.M.
Leave Portland at 7 1/2 A.M. and 3 P.M.

GREAT FALLS TRAIN.
Leave Boston at 5 P.M.
Leave Great Falls at 6 1/2 A.M.

HAVERHILL TRAINS.
Leave Boston at 11 1/2 A.M. and 6-20 P.M.
Leave Haverhill at 6 1/2 A.M. and 4 1/2 P.M.

READING TRAINS.
Leave Boston at 8 1/2 A.M. and 8 1/2 P.M.
Leave Reading at 6 A.M. and 1 1/2 P.M.

MEDFORD BRANCH TRAINS.
Leave Boston at 7 1/2, 11 1/2 A.M., 2 1/2, 5 1/2, 7 P.M.
Leave Medford at 6 1/2, 8 A.M., 1 1/2, 4 1/2, 6 P.M.

The Depot in Boston is on Haymarket Square.
Passengers are not allowed to carry Baggage above \$50 in value, and that personal, unless notice is given, and an extra amount paid, at the rate of the price of a Ticket for every \$500 additional value.

CHAS. MINOT, Sup't.

SUMMER ARRANGEMENT.—NEW YORK AND ERIE RAILROAD LINE, from April 1st until further notice, will

run daily (Sundays excepted) between the city of New York and Middletown, Goshen, and intermediate places, as follows:

FOR PASSENGERS—
Leave New York at 7 A.M. and 4 P.M.
" Middletown at 6 1/2 A.M. and 5 1/2 P.M.

FARE REDUCED to \$1.25 to Middletown—way in proportion. Breakfast, supper and berths can be had on the steamboat.

FOR FREIGHT—
Leave New York at 5 P.M.
" Middletown at 12 M.

The names of the consignee and of the station where to be left, must be distinctly marked upon each article shipped. Freight not received after 5 P.M. in New York.

Apply to J. F. Clarkson, agent, at office corner of Duane and West sts. H. C. SEYMOUR, Sup't. March 25th, 1846.

Stages run daily from Middletown, on the arrival of the afternoon train, to Milford, Carbondale, Honesdale, Montrose, Towanda, Owego, and West; also to Monticello, Windsor, Binghamton, Ithaca, etc., etc. Agent on board.

131f
NORWICH AND WORCESTER RAILROAD. Summer Arrangement. Change of

Hours. Commencing on Wednesday, April 21, 1847.

Accommodation Trains, daily, (except Sunday.) Leave Norwich, at 6 a.m., and 4 p.m. Leave Worcester, at 8 1/2 a.m., and 4 1/2 p.m.

The morning Accommodation Trains from Norwich, and from Worcester, connect with the trains of the Boston, and Worcester and Western railroads each way.

The Evening Accommodation Train from Worcester connects with the 2 1/2 p.m. train from Boston.

New York Train via Steamboat—Leave Norwich for Boston, every morning, except Monday, on the arrival of the steamboat from New York, stopping at Norwich and Danielsonville.

Leave Worcester for New York, upon the arrival of the train from Boston, at about 6 1/2 p.m., daily, except Sunday, stopping at Danielsonville and Norwich.

Freight Trains daily each way, except Sunday.—Leave Norwich at 7, and Worcester at 6 30 a.m. Special contracts will be made for cargoes, or large quantities of freight, on application to the superintendent.

311y
Fares are Less when paid for Tickets than when paid in the Cars.
J. W. STOWELL, Sup't.

LITTLE MIAMI RAILROAD.—OPEN TO SPRINGFIELD.—Distance 64 miles.

Connecting at Xenia and Springfield with Messrs. Neil, Moore & Co.'s daily daylight lines of stages going east and north, to Columbus, Zanesville, Wheeling, Cleveland, and Sandusky City, via Urbana, Bellefontaine, Kenton, and the Mad river and Lake Erie railroad, or Columbus, Delaware, and the Mansfield and Sandusky City railroad—forming, by these connections, the cheapest and most expeditious route to Buffalo, Niagara Falls, Rochester, Albany, New York, and Boston.

On and after Thursday, August 13, 1846, until further notice, a Passenger train will run as follows: Leave Cincinnati daily at 9 A. M., for Millford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Old Town, Yellow Springs, and Springfield.

Returning, will leave Springfield at 4 hours 35 minutes A. M. A line of Hacks runs in connection with the Cars, between Deerfield and Lebanon.

Fare—From Cincinnati to Lebanon... \$1 00
 " " " Xenia... 1 50
 " " " Springfield... 2 00
 " " " Columbus... 4 00
 " " " Sandusky city 8 00

The Passenger trains run in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company, on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at a passage for every \$500 in value over that amount.

The 1 1/2 P. M. train from Cincinnati, and the 2 40 P. M. train from Xenia, will be discontinued on and after Monday, the 10th instant.

A freight train will run daily.

W. H. CLEMENT, Sup't.

BALTIMORE AND OHIO RAILROAD.—MAIN STEM. The Train carrying the Great Western Mail leaves Bal-

timore every morning at 7 1/2 and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburg and Hancock, connecting daily each way with the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5 1/2 P. M. Fare between those points \$7, and 4 cents per mile for less distances. Fare through to Wheeling \$11 and time about 36 hours, to Pittsburgh \$10, and time about 32 hours. Through tickets from Philadelphia to Wheeling \$13, to Pittsburgh \$12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 1/2 night from Baltimore and at 6 A. M. and 5 1/2 P. M. from Washington, connecting daily with the lines North, South and West, at Baltimore, Washington and the Relay house. Fare \$1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances.

MANUFACTURE OF PATENT WIRE

Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by JOHN A. ROEBLING, Civil Engineer, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railroad, has now run 4 seasons, and is still in good condition.

BALTIMORE AND SUSQUEHANNA

Railroad.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger trains run daily, except Sunday, as follows: Leaves Baltimore at 9 a.m. and 3 1/2 p.m. Arrives at 9 a.m. and 6 1/2 p.m. Leaves York at 5 a.m. and 3 p.m. Arrives at 12 1/2 p.m. and 8 p.m. Leaves York for Columbia at 1 1/2 p.m. and 8 a.m. Leaves Columbia for York at 8 a.m. and 2 p.m.

FARE.
 Fare to York... \$1 50
 " Wrightsville... 2 00
 " Columbia... 2 12 1/2
 Way points in proportion.

PITTSBURG, GETTYSBURG AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg... \$9
 Or via Lancaster by railroad... 10
 Through tickets to Harrisburg or Gettysburg... 3
 In connection with the afternoon train at 3 1/2 o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at 5 1/2 p.m. Returning, leaves Owing's Mills at 7 a.m.

D. C. H. BORDLEY, Sup't.
 Ticket Office, 63 North st.

CENTRAL RAILROAD—FROM SAVANNAH to Macon.—Distance 190 miles.

This Road is open for the transportation of Passengers and Freight. Rates of Passage, \$8 00. Freight—On weight goods generally... 50 cts. per hundred. On measurement goods... 13 cts. per cubic ft. On brls. wet (except molasses and oil)... \$1 50 per barrel. On brls. dry (except lime)... 80 cts. per barrel. On iron in pigs or bars, castings for mills, and unboxed machinery... 40 cts. per hundred. On hdds. and pipes of liquor, not over 120 gallons... \$5 00 per bhd. On molasses and oil... \$6 00 per bhd. Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE, y40 Gen'l. Sup't. Transportation.

NEW YORK & HARLEM RAILROAD CO.—Winter Arrangement.

On and after Monday, November 23, 1846, the cars will run as follows: Leave 27th street for 42d street, Deaf and Dumb Institute, Yorkville, Harlem Morrianna, and Williams' Bridge, at 7 o'clock a.m. From City Hall for above named places, 2 p.m. [freight train], 2 30 p.m. 5 p.m. to Morrisania only. Leave City Hall for Harlem, Morrisania, Fordham and Williams' Bridge, at 7 45 a.m. and 10 45 a.m.; 1 15 p.m., 2 p.m. [freight train], 2 30 p.m. and 3 45 p.m. Leave City Hall for Hunt's Bridge, Bronx, Tuckahoe, Hart's Corners, White Plains, Davis' Brook, Unionville and Pleasantville, [Pleasantville 4 miles from Sing Sing], 7 45 and 10 45 a.m.; 1 15 p.m., 2 p.m. [freight train], and 3 45 p.m.

RETURNING.
 Leave Pleasantville, at 8, 10, [freight train], and 11 a.m.; 1 30, and 4 p.m.
 Leave White Plains, at 8 12, 10 30, [freight train] and 11 20 a.m.; 1 50, and 4 20 p.m.
 Leave Tuckahoe, 8 35, 10 55, [freight train], and 11 35 a.m.; 2 05, and 4 35 p.m.
 Leave Williams' Bridge at 7 45, 8 50 and 11 50 a.m.; 2 40, 4, and 4 50 p.m.
 Leave Morrisania 8 and 9 05 a.m.; 12 05, 2 35, 4 20, 5 05 and 6 p.m.
 Leave Yorkville, at 8 12 a.m.; 4 35 and 6 15 p.m.

SUNDAY ARRANGEMENTS.

Leave City Hall for Pleasantville and intermediate places, at 7 45 a.m.; 1 15 and 3 p.m.
 Leave Pleasantville for City Hall, at 8 a.m.; 11, and 3 15 p.m.
 Leave City Hall for Williams' Bridge and intermediate places, 10 45 a.m.; 2 30 p.m.
 Leave Williams' Bridge for City Hall, at 8 50 and 11 50 a.m.; 1, 3 45 and 4 05 p.m.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore... 8 a.m. and 10 p.m.
 Baltimore for Philadelphia... 9 a.m. and 8 p.m.
 Connecting with Mail Lines North, South & West.
 On Sundays, only the 10 P. M. Lines run.
 The Boat Lines, via Newcastle & Frenchtown R.R. Leave Philadelphia at 3 1/2 p.m. No line on Sunday. Leave Baltimore at 3 p.m. day.
 Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., mail, 12 1/2 p.m., 4 p.m., 7 p.m., 10 p.m. mail. Wilmington to Philadelphia, 7 a.m., 1 p.m., mail, 4 1/2 p.m., 7 p.m., 12 1/2 a.m., night mail.

J. R. TRIMBLE, Engineer and General Superintendent.

GEORGIA RAILROAD, FROM AUGUSTA to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA to OOTHICALOGA, 80 MILES.

This Road in connection with the South Carolina Railroad and the Western and Atlantic Railroad now forms a continuous line, 388 miles in length, from Charleston to Oothicaloga on the Oostenaula River, in Cass Co., Georgia.

RATES OF FREIGHT.

	Between Augusta and Oothicaloga and Dalton, 250 miles.	Between Charleston, Oothicaloga and Dalton, 388 miles.
1st class. Boxes of Hats, Bonnets, and Furniture, per cubic foot.	\$0 16	\$0 26
2d class. Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class. Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class. Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.	0 45	0 70
Cotton, per 100 lbs.	0 45	0 65
Molasses, per hogshead.	8 50	13 50
" " barrel.	2 00	3 25
Salt per bushel.	0 17	25
Salt per Liverpool sack.		95
Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows...	0 75	1 37

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight may be paid at Augusta, Atlanta, or Oothicaloga.

J. EDGAR THOMSON, Ch. Eng. and Gen. Agent.

Augusta, Sept. 2d, 1846.

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to Oothicaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tusculumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothicaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

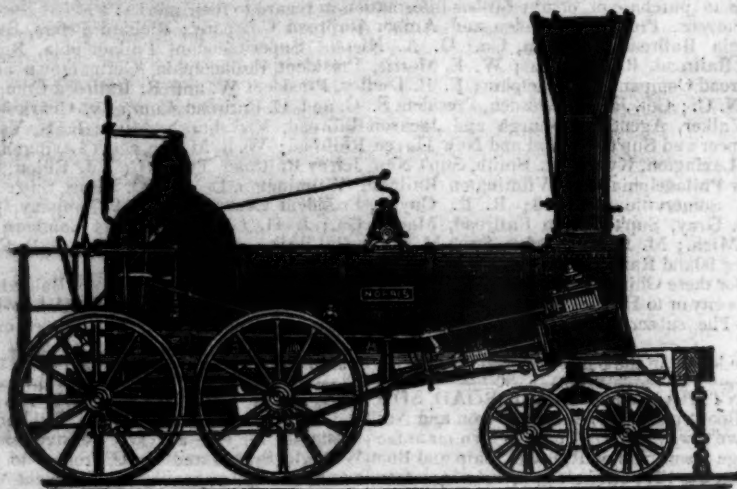
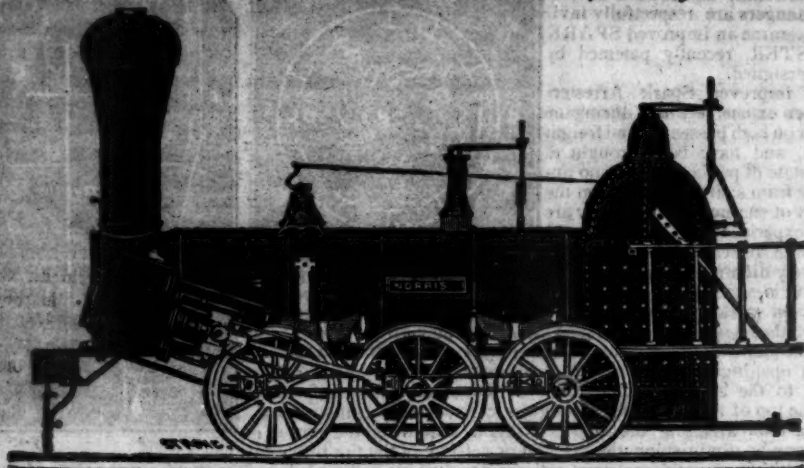
This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT, Chief Engineer.

Atlanta, Georgia, April 16th, 1846.

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.



MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class 1,	15 inches Diameter of Cylinder,	× 20 inches Stroke.
" 2,	14	" " " × 24 " "
" 3,	14½	" " " × 20 " "
" 4,	12½	" " " × 20 " "
" 5,	11½	" " " × 20 " "
" 6,	10½	" " " × 18 " "

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion. Castings of all kinds made to order: and they call attention to their Chilled Wheels, for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

KEARNEY FRIE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire, }
Peter Cooper, } New York.
Murdoch, Leavitt & Co. }
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. } Philadelphia, Pa.
Colwell & Co. }
J. M. L. & W. H. Scovill, Waterbury, Conn.
N. E. Screw Co. } Providence, R. I.
Eagle Screw Co. }
William Parker, Supt. Bost. and Wore. R. R.
New Jersey Malleable Iron Co., Newark N. J.
Gardner, Harrison & Co. Newark, N. J.
35,000 to 30,000 made weekly.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by
A. & G. RALSTON
Mar. 20th 4 South Front St., Philadelphia.

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 ft, with lathes, work benches, Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 30 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side of Parker st., containing 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to HENRY ANDREWS, 48 State st., or to CURTIS, LEAVENS & CO., 106 State st., Boston, or to A. & G. RALSTON & Co., Philadelphia.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to 1 in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T, L, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets, PHILADELPHIA.

TO LOCOMOTIVE AND MARINE ENGINE BOILER BUILDERS. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,
Warehouse S. E. corner 3d and Walnut Sts., Philadelphia.

PATENT INDESTRUCTIBLE WATER

Pipes. The subscribers continue to manufacture the above Pipes, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits. This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly indestructible. The prices are less than those of iron or lead. We also manufacture Basins and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 119 Fulton street, New York.

J. BALL & CO.

Birkenhead.—Its Rise and Progress.

We find in the Railway Record, of 10th April, the following account of the new city of Birkenhead—opposite Liverpool, on the Mersey. From this account, we predict that it will become a powerful rival to its prosperous neighbor.

"Birkenhead is certainly one of the great phenomena of the age; and, in its rapid growth and leading physiology, strikingly exhibits the character of that influence which commerce is beginning more and more potently to exercise in the social and political affairs of nations. Formerly, kings and courts were the principal founders of cities; and to their pleasures and expenditures the inhabitants looked for support. We have changed all that. Other kinds of considerations altogether determine the sites of towns. The interests of commerce are become more powerful than the interests of courts. New elements entered into our social system with the introduction of steam as a motive power, and revolutionized all the old modes of national development. Other authorities prescribe the grooves in which human events shall move, than political legislators. Governments could not have made a Birkenhead without enormous cost and loss. Of commerce, it has sprung up with a good percentage of profit in its hands. Here is a large, beautiful, and wealthy town, rising as it were spontaneously out of the earth, not at the arbitrary dictate of a powerful despot, but in the quiet way of national growth, and solely in obedience to the requirements of an ever-increasing commerce. Commerce has certainly become a most imposing power! A very few years ago—we remember it perfectly—a few houses fronting the river, looking very desolate in their solitude, and some poor fishermen's huts, constituted the whole of the town, now counting its inhabitants by tens of thousands, and boasting its splendid squares, streets, crescents, and parks: and, within these dozen years, we recollect the hounds of Sir William Stanley running down a fox, and hearing the huntsman's bugle in a wild spot where now stands a square of considerable architectural pretensions, larger than Belgrave square, in London, and every mansion in which has long been tenanted by the commercial and monied aristocracy of the place.

"Birkenhead has grown up chiefly under the direction of a few enterprising individuals. It has, consequently, had all the advantages of unity of effort and design, in its general arrangements, both of public and private buildings, and in carrying into effect the original plans with regard to all those sanitary regulations which the researches of the last few years have placed at the service of the large builder. The founders of Birkenhead determined to make it a model city. They have studied the requirements of populous towns, for the better preservation of the public health—and they have spared no cost to render their infant community as free from the ordinary elements of deterioration as possible. In this respect they have set a noble example to the rest of England. The streets are wide, airy and straight, cutting each other at right angles or running in parallels. This ar-

range ment gives them something of the prim monotony of the streets of Washington; but if it detract from the picturesque, it serves to promote a free circulation of air—the great desideratum of crowded cities. The houses are only permitted to be built on approved plans. Model cottages for the poor, furnishing many of the conveniences which the houses of the middle classes are without in the metropolis of the country, have been erected, and are let out at an incredibly low rate—and yet they are found to produce a good percentage on the outlay. The market is a fine building—one of the finest of the kind in the kingdom—airy, spacious, plentifully supplied with water, and cooled with refreshing fountains—in every respect utterly unlike the reeking nooks and dens which, to the disgrace of London, are permitted to engender all sorts of foul air and disease in the densest districts of the metropolis. The slaughter houses, those fatal hotbeds of fevers in London, are built at some distance from the town, and are so constructed as to prevent accumulation of decaying matters, and are provided with effective means for carrying them off. Besides these enlightened regulations, tending to procure a constant supply of fresh air, light and water, for the preservation of the public health, a wise forethought determined the projectors to set aside forever, for the benefit of the public, a large piece of ground as a park. This has been laid out with walks, trees, etc., at a cost of nearly £130,000. Yet this will soon be repaid in the advancing value of the surrounding properties, all of which will be let or sold for building purposes. Commercial transactions have taught the inhabitants of Birkenhead that the most liberal policy is ever in the end the most remunerative—a fact that cannot be too well and widely known.

"As a port, Birkenhead offers many advantages to the shipping of all nations.—When completed, the docks will be sufficiently capacious to float all the merchant navy of the world; while, from their form, and the railways being brought down to the edge of the water, they will afford facilities for loading and unloading goods, such as, perhaps, no other seaport in Europe can boast of.

Besides this, there are river advantages on the northern bank of the Mersey. Many eminent engineers have expressed the opinion that Liverpool was on the wrong side of the water. The authorities have likewise resolved to permit the use of lights and fires on board, as in the ports of London, Bristol, etc.—a boon of considerable importance to the crews, and especially to those of American vessels.

"One of the great advantages to commerce likely to arise from the rivalry of the two ports, will be a reduction of the dues now levied upon all goods and shipping in Liverpool. The town dues and the dues on goods, which in Liverpool amount to £200,000 per annum, will not be levied in Birkenhead;—and this amount will be saved to the owner, who will naturally enough use the new docks. In order to maintain her position, Liverpool

will be forced to reduce, if not altogether abolish, her most obnoxious imposts upon shipping, and to offer new inducements for the merchants of continental Europe and America to enter into still more intimate commercial relations with those great manufacturing districts of Lancashire and Yorkshire of which she is the natural outlet to foreign States. With one of the richest corporations in the world, she can well afford this reduction. But the men of Liverpool understand all this too well to need our pointing out."

Printing Telegraph.

We find the following article in the London Mining Journal of 10th April. Its statements would be highly interesting to the people of this country, if correct—but, like many other good things, they are too good to be true—during the present year. We have accomplished much in the erection of Telegraphs in this country, upon an improved and superior plan, invented by Professor Morse, for which he is entitled to rich rewards, both in a pecuniary point of view, and in the high regard of his countrymen; but we have not yet, that we are aware of, commenced the erection of a single line on the plan here designated the "Printing Telegraph"—though we have not a doubt but that improvements will be made upon the present plan, equal to those made and making upon the locomotive engine.

The plan of Telegraph of Mr. Morse, which alone is in use in this country, has no printing machine attached; but communicates by dots and lines—made upon paper passing under a point, acted upon by the electric fluid communicated at the other end of the wire—which, by various combinations, represent words, to be written out by the operator, or his assistant. We give this statement, as we find it, at length.

"Brett's Electric Printing Telegraph.—"

We had much pleasure in witnessing the operation of this highly useful and important invention, on Saturday last, at the offices in Parliament street. Hitherto the electric telegraph has been confined to the conveyance of verbal messages, which are read by peculiar signs on an indicating dial; and on that account its utility must, to a great extent, be limited. Mr. Brett, however, introduced to us, on Saturday last, an apparatus by which any two parties may themselves carry on a negotiation, or correspondence, and which will be unerringly printed at the rate of 87 letters per minute, without limit of distance either by sea or land. At one extremity of a line of telegraph is fixed a small box, containing a row of keys (similar to those of a pianoforte) and marked with the letters of the alphabet, which is connected by a single wire to a printing machine at the other extremity, containing a wheel, having on its circumference corresponding letters; a slight electric power is sufficient to regulate the motion of the whole, and the instant that a key representing any particular letter is touched at one end of the line, the corresponding letter of the type wheel prints—and the alarm bell rings—at the other. The communications are printed on a scroll of paper of unlimited length, from which any portion of the correspondence may be cut off at pleasure. The oceanic line, (of which Mr. J. Brett is the originator) is equally simple and practicable

so that a communication made in London could be instantly printed in Dublin, Paris, Berlin, etc. Licenses have been already granted by the patentees to the enterprising house of Messrs. Livingston, Wells & Co., of New York, for the formation of lines of telegraphic communication in North America, to the extent of upwards of 4000 miles. These lines are in rapid progress towards completion, and partly in actual operation, realizing the most sanguine expectations of the patentees and the public. It is expected that in December next, they will be complete from Halifax, through Lower and Upper Canada, and across Niagara, will reach New York, and extend to Washington and New Orleans—so that the moment a vessel arrives at either port, the news it conveys can be printed simultaneously throughout that vast continent, at the rate of 87 letters per minute, without limit of distance. A line has been completed across the Allegheny mountains, and it has worked admirably between Philadelphia and Pittsburg—a distance 300 miles. The journals of Pittsburg have published the proceedings of Congress of one afternoon, on the following morning; and this is the case with all the news from the great cities of the Atlantic coast. The message of the Governor to the Legislature of New York, delivered at Albany on the 7th January, and consisting of two columns and a half of solid nonpareil, was published in New York two hours after its delivery, having been transmitted sentence by sentence by the electric telegraph. Mr. Brett had the honor of a visit from his Royal Highness the Comte de Montemolin, who appeared to take great interest in the invention, and expressed himself much pleased with it, and printed his own name by means of the telegraph. We have little doubt that it will supersede our present system, from its many superior advantages; and the government, in particular, ought not to lose sight of so important a power. The following may be stated as a few of the advantages of this patent: 1. The immediate communication of government orders and despatches to all parts of the empire, and the instant return of answers to the same, from the seats of local governments, etc., all delivered in an unerring and printed form. 2. A general telegraphic postoffice system, uniting the chief and branch offices in London, in connection with all the offices throughout the kingdom; for transmitting messages of business, etc., from merchants, brokers, tradesmen and private persons, at a fixed rate of charge; these communications would be printed on paper, and all enclosed in sealed envelopes, and addressed by confidential clerks, and issued by special messengers or the usual postoffice delivery. 3. The advantages of this plan, applied to police arrangements throughout the United Kingdom, and to the army and navy departments, must be at once obvious to the government. By it, instructions might be conveyed instantaneously, and the movements of the forces so regulated that any available number of them may be brought together at any given point, in the shortest possible time necessary for their

conveyance. These are some of the advantages, others readily suggest themselves, viz: general communication between stations on the coast, such as lighthouses, channels, islands, etc., so that a general supervision of the coast might be obtained for the use of the navy, Lloyd's, and for the prevention, of smuggling, etc. This invention, which, as our readers are aware, is of American origin, is held unitedly by Mr. Brett and Mr. R. E. Rouse, an American."

Submarine Electro Telegraph.—An experiment, completely successful, was witnessed, on Saturday last, in the Isle of Wight, of the powers of Mr. Not's electric telegraph. A perfect and rapid communication was established between East and West Cowes by means of a single wire sunk across the channel. The telegraphs were attached, one being placed at the Medina Hotel, and the other at the opposite side of the channel, near the Fountain Hotel. The signal bells were rung simultaneously, and the telegraphs commenced working and communicating questions and answers with the greatest precision and certainty, with a galvanic battery of low power, showing that a single isolated wire immersed in the water could carry the electric current a distance of half a mile. The water brought back the current to its source, without the slightest perceptible dispersion or loss of the dynamic power. This experiment demonstrates the perfect practicability of submarine communication, and the question as to its application may be said to be satisfactorily solved. The consequences can scarcely be as yet appreciated, though they are wonderful to contemplate. Instantaneous communication may be established between places divided by estuaries and channels, and islands and continents brought into immediate proximity of correspondence."

Locomotive Traction—Its Progress.

Galloway's Engine for Inclined Planes.

We published, in the last number of the Journal, a description of "Crampton's" improved locomotive, the "Namur," built for the Namur and Liege railroad, from the London Mining Journal, of April 10th, with an engraving. We now give a description of Galloway's locomotive for ascending inclined planes, from the Railway Record of the same date. The editor of the Record says: "We had an opportunity on Saturday last, and again on Thursday, of inspecting the engine constructed for ascending inclined planes, at present perfectly impracticable with the existing locomotives, in the most favorable weather. The engine has been working experimentally for some months past, on a severe incline laid down alongside the southern side of the Gt. Western line, near the Maidenhead station."

The invention is by Mr. Elijah Galloway, C. E., and consists in fitting to the locomotive a pair of horizontal (or nearly horizontal) driving wheels, and causing them to act on each side of an intermediate rail laid midway between the ordinary rails of each line. These driving wheels are pressed towards each other by means of springs, the pressure of which can be adjusted by screws. The nuts of the screws are toothed wheels, acted upon by a worm, the axis of which is carried up so as to be within the reach of the driver,

and the pressure can, therefore, be regulated to whatever the springs will bear, even when the train is in motion. The horizontal driving wheels are intended to be of the same diameter as the vertical driving wheels, and to act with them simultaneously, by means of connecting or coupling rods. It is proposed to lay the intermediate rails on the inclines only, so that on the levels the train will be propelled by the ordinary driving wheels; but, on coming to the foot of the incline, the additional wheels will run on to and embrace the middle rail, which is pointed so as to allow the wheels to snatch it with facility, and thus in addition to the bite of gravity, there may be obtained any requisite increased amount of bite. The great object of the invention, therefore, is obviously to avoid slipping, which is a most formidable drawback to locomotive traction, for the power of the locomotive depends solely upon the bite or adhesion between the driving wheels and the rails—and in wet weather, or when the rails are covered with snow or ice, this bite becomes so much reduced, that the only way of insuring the progress of the train is by employing additional engines, the locomotive failing, (as Mr. Robert Stevenson stated in his evidence before the Select Committee of the House of Commons, on Atmospheric Railways,) not for want of power, but for want of bite upon the rail.

The experimental engine employed on Thursday was an old engine belonging to the Great Western company, and made by Taylors & Co. We believe it was the first engine employed on the line. It has been altered to Mr. Galloway's plan, by removing the ordinary driving wheels and substituting two horizontal wheels of three feet diameter, placed so as to nip a middle rail. The experiment, therefore, is so far unfavorable to the invention, that the tractive force is obtained solely by the new driving wheels. With this drawback, however, the engine ascends a gradient of 1 in 19, with a gross load of about 32 tons. It also descends with ease and regularity, being controlled by a break which acts upon the horizontal wheels; and as this breaking power is also dependent on the pressure on the middle rail, it is capable of being carried to a much greater extent than when the break is applied to the tender—too much pressure on the brakes merely converting the tender into a sledge. The power, after its adaptation to Mr. Galloway's plan of this engine, is stated by Mr. D. Gooch (the company's locomotive engineer) in the following report:

Gt. Western Railway Engineer's Office } Paddington, March 25, 1847.

"The following is the result of the experiment I made with Mr. Galloway's locomotive engine, in which the driving wheels are placed horizontally, and act against the sides of a central rail:—

Weight of engine, 20 tons.

Weight of load, 134 "

"This weight was taken at a slow speed up an incline of 1 in 19, with a pressure on

the boiler of 60 pounds on the inch, and calculating the power of the engine and actual duty performed, we have as follows:

"With steam at 60 pounds in the boiler, the average effective pressure on the pistons, after deducting back pressure, will be about 50 pounds on the inch; then the area of the two cylinders $308 \times 50 = 15,400$ pounds, and double stroke of piston equal 32 inches, and circumference of driving wheel, 116 inches.

"Therefore, as 116 inches : 15,400 : : 32 : 4,248 tractive power on the rim of the wheel.

"And gravity per ton 1 in 19 = 118 pounds.

Friction, do., 7
 124×33.5
 tons = 4,187.5 pounds, resistance overcome.

"Therefore, $4,248 - 4,117 = 61$ pounds, the total loss from the friction of the working parts of the engine which I think is as small a loss as can be hoped for in any class of engines. And from the facility of applying screws to increase the weight on the driving wheels to any required amount, there is no difficulty from slipping.

(Signed,) "DANIEL GOOCH."

We have stated that the novelty of this plan is the obtaining of an extra bite, when such is necessary, to prevent slipping. Archimedes said he could lift the world if he had but a fulcrum; and the difficulty of the locomotive engineer has been heretofore a similar one—the fulcrum has fluctuated with the weather, and in all cases it is limited to the adhesion due to the weight of the engine.

An instance of the consequence of this state of things is furnished on the Lickey incline of the Birmingham and Gloucester railway, which is a gradient of 1 in 37 for upwards of three miles. To ascend this incline, an assistant engine is employed, weighing between (if we recollect rightly) 50 and 60 tons—the net load, in many cases, not exceeding 20 or 30 tons. The additional engine, therefore, at least doubles the gross load in such cases, and requires, of course, a corresponding increase of power to surmount the gradient. If the necessary bite can be ensured, engines of the ordinary power and weight would ascend this gradient without the aid of an assistant.

The principle admits of modifications according to the objects sought to be obtained, namely,

First. Increasing the power by increase of bite; and

Secondly. Increasing the power by reducing the size of the driving wheels.

The first of these conditions only would be requisite, where the engine can surmount the gradient of a line in dry weather, but fails when it is wet or greasy.

The second would give the power of ascending inclines where the present locomotive could not move under any circumstances whatever; because by reducing the diameter of the driving wheels, we convert speed into power.

The introduction of such a system, if it succeed to the extent anticipated, will most materially affect the cost of construction, especially through countries where good gradients can be obtained only by resorting to

heavy works, such as tunnels, cuttings, embankments, etc.; and when we consider that by works alone the cost of a railway may be made to vary from £8,000 to £50,000 per mile, the value of an invention which dispenses with those works will be readily appreciated. Nor does it follow that by concentrated gradients, such as would arise from taking more nearly the surface of the country, a great reduction of the mean speed would result, for the conversion of speed into power on ascending the steep inclines would be in some measure compensated for on the descent. It is stated that taking a gradient of 1 in 40 is a maximum. An engine having five feet driving wheels, and power equal to that of the Great Western engines, when secure from slipping, would draw a load of 100 tons at a speed of 30 miles at least per hour, up such a gradient.

The Iron Trade

In the London Mining Journal, of April 24th, we find the following article in relation to the iron trade.

"We have in this Journal steadily maintained that the importation of breadstuffs from America, coupled with the altered tariff on the importation of iron into America, would make the Americans customers to a greater extent than formerly for pig and manufactured iron; and the Glasgow market, since the arrival of the Hibernia, is represented to be at the beginning of a considerable advance, although at present, quotations cannot be given much higher.

"In the City article of the Times, the favorable accounts by the Hibernia are confirmed—but without giving credit to the extent of the orders for British manufactures, spoken of in some quarters, it is stated the accounts by this packet furnish signs of a decidedly 'good' trade.

"In our last number, it is recorded in the new Customs Bill, presented to the Chambers by the Minister of Finance, in France, there is a clause exempting sheet iron, iron in bars, copper and zinc, from the payment of all import duty, provided they be employed in the construction of vessels for the merchant navy, within one year after their importation, which is an additional reason for the better appearance of the pig iron market in Scotland.—These evidences of prosperity, in the present state of the money and corn market, argue favorably for an important advance in iron, when the present, to a certain degree, depressing influences are removed; and removed they assuredly will be, as the operation of the exchanges draws back a proportion of bullion left, and now leaving, the country; and the American orders, consequent on the profits of breadstuffs, increasing American expenditure, create a demand for articles of dress, and other British manufactures.

"With reference to railway undertakings, the 200,000 men employed still continue their work, and railway debentures advance in the estimation of the public. In connection with the present value of money, a morning contemporary observes, 'Were the investments in railways a mere speculative bubble, the measures now pursued by the bank would soon put them *hors de combat*—but experi-

ence has shown that the security is as good as the public funds; and as debentures, bearing 5 per cent. interest, are equivalent to a 3 per cent. of stock at 60, with the certainty of the return of the whole amount of the capital, no such disparity, as now exists between them, can be long maintained.' Looking to the future, when the minds of the commercial community can be settled with respect to the next harvest, and these prospects be favorable, there appears every reason to expect, not only an extensive business throughout the manufacturing districts, but a rapid advance in the completion of the railways, on which so large a number of laborers have now, for several months, been daily employed. The question arises, can the iron be supplied when required? and will not the competition, to have the necessary supplies, create an important advance—seeing, that without iron, no line can be put into working order? In conclusion, the 200,000 men employed are preparing roads to require, in one year, the entire make of iron in England, Wales and Scotland—and with this important fact before them, we again leave the iron trade to form their own conclusions."

Dublin and Kingston Railway.

We give the following extracts from the last annual report of this company, that our readers may be able to compare it with former reports published in this Journal in relation to the same work; and to show that low fares and frequent trains, especially in connection with large cities, produce good dividends.

Directors' Report to the Annual Meeting, April 15.—The Extension Act, obtained in the last session of Parliament, has provided for half-yearly meetings and half-yearly statements of accounts; and at the first of those meetings under that Act, held on the 16th of October last, the Board presented a Report, with a short abstract of the accounts for the preceding six months, informing you at the same time that they would lay before you on this occasion a detailed statement of accounts and the usual statistical returns for the whole year, so as to enable you to compare them with the previous annual statements. Accordingly they now submit the following statistical returns, with which it has been the practice for several years past to commence their Reports.

Number of passengers booked at all the stations,	1,668,660
Last year,	1,747,100
Decrease,	78,440
Estimated trips by subscribers,	636,260
Last year,	601,513
Increase,	34,747
Gross number of passengers, subscribers included,	2,303,910
Last year,	2,348,614
Decrease,	44,703
Subscriptions received,	£7,901,140
Last year,	£7,598,121 10
Increase,	£302,999 10
Gross income from all sources (exclusive of Dalkey),	£31,691 15 2
Last year,	£3,036 19 1
Decrease,	£1,345 3 11

Classification of Passengers for the last Seven Years, including Subscribers.

Year ended last	1st Class	2nd Class	3rd Class	General
1841	35,558	724,105	759,383	1,519,024
1842	37,001	840,116	754,968	1,632,085
1843	68,156	960,937	728,788	1,758,881
1844	98,076	1,049,243	814,732	1,962,051
1845	104,109	1,219,556	910,769	2,234,433
1846	141,911	1,293,524	913,178	2,348,613
1847	159,389	1,304,798	846,732	2,309,919
1844	1845	1846	1847	
Trains despatched	29,564	30,745	30,970	33,479
Miles travelled	177,384	184,470	185,820	194,674
Average coaches				
per train	7-484	7-511	7-550	7-373
Average passengers				
per train	66-366	79-676	75-830	70-935
Consumption of				
coke per train				
per mile	24,107lb.	24,220lb.	26,740lb.	28,503
Average receipts				
per passenger per				
mile	0-968d.	0-893d.	0-883d.	0-897d.
Gross receipts				
1845	255,82	251,187	67	253,036
1846	251,187	67	253,036	191
1847	253,036	191	251,691	152
Third-class morning tickets, year ended Feb. 28,				
1843				30,514
1844				37,310
1845				116,920
1846				174,802
1847				192,154
1847				180,366

You will participate in the regret of the Board that these statements do not exhibit the progressive increase which they have usually shown; but much as this is to be regretted, it cannot excite surprise. The awful calamity which has fallen on this country has not been confined in its effects to the mere immediate sufferers, and one consequence has been a very general anxiety to limit expenditure wherever practicable. This has not only caused a considerable diminution of traffic, but, combined with other circumstances, has tended to produce nearly a total cessation of building in all those districts which affect your income, with the single exception of the neighborhood of Dalkey. The Board, however, confidently hope that the present very general depression will have only a temporary effect, and that as all the elements of the prosperity of the company remain unchanged, there will be a corresponding reaction at no distant period.

The relaying of the road with heavier rails has been completed within the year, and all the old rails sold, leaving a balance of 1,977. 8s. 2d. against that account, part of which 948. 3s. has been charged against the unappropriated balance of the contingent fund, and the remainder, 1,029. 5s. 2d., has been charged to profit and loss.

The appropriation of 2,000. per annum for the purpose of liquidating the debenture loan having been discontinued by a special general meeting of the 20th of August, 1844, in pursuance of a recommendation from the Board, they have now directed that the sum to the credit of this account amounting to 4,000., shall be transferred to that of profit and loss.

There appears to be a considerable increase upon this year's account in the expenditure of the locomotive and carriage department, but this is accounted for by the fact that the whole of the new work executed within the year—the outlay upon which has exceeded 4,000.—has been charged in the

present accounts to annual expenditure, while in last year's account a large proportion of the cost of new engines and carriages was, with your sanction, charged to the contingent fund. A considerable addition has been made by this outlay to the value of your stock of engines and carriages.

On the Dalkey line the atmospheric apparatus has continued to work with great regularity during the past year, the attraction of novelty having, however, nearly ended, there has been some reduction of income from it, but the great impulse which has been given to building in the neighborhood of Dalkey, gives the Board reason to expect that there will be a corresponding increase in the receipts of both lines.

The balance of the profit and loss account applicable to dividend is 9,007. 11s. 4d.; and the Board declare a dividend for the half-year of 4l. 10s. per share on the original shares of the company, amounting to 9,000., which will be payable on and after Monday, the 26th inst.

Revenue Account for Year ended Feb. 28.

RECEIPTS.	
Passengers	£42,343 14 3
Police, soldiers and pilots (by contract)	151 2 0
Subscriptions	7,901 1 10
Parcels	569 12 5
Post-office contract for conveyance of mails	500 0 0
Baths, for rent received	142 0 0
Rents	80 14 3
Miscellaneous receipts (transfer fees, &c.)	3 10 0
Dalkey traffic	2,361 5 8
	£54,053 0 10

EXPENDITURE.

Locomotive power—	
Salaries and wages, materials, engine-men and firemen's wages, fuel, coke and water-station wages and sacks, coals for forge and shop use, lighting workshops (gas,) oil, tallow, hemp, waste, and petty expenses	£9,509 3 5
Carriage department—	
Salaries and wages, materials, coals for forge and shop use, lighting workshops (gas,) paints, oils, varnishes, grease and petty expenses	4,230 4 8
Railway maintenance	2,828 9 7
Police and night-watch, wages and clothing	1,060 2 11
Passenger traffic, including salaries of receiving clerks, wages of guards, ticket-takers and door-keepers, printing tickets and dockets, advertising and petty expenses	1,597 19 11
Stations and lodges, including salaries of superintendents and station-keepers, lighting and repairs of lamps, wages of tablemen, repairs and painting	3,032 2 8
Parcel traffic, including salaries, wages, books and printing	256 13 11
Office expenses, salaries of treasurer, clerk of the company, resident engineer, book-keeper, office clerks, stationery postage and servants	1,802 1 2
Directors' allowance for year ending Feb. 28, 1846, under resolution of thirteenth annual meeting	1,000 0 0
Rent, &c.	480 6 2
Taxes	1,103 8 10
Law expenses	121 17 8
Baths, for repairs	165 4 1
Insurance, charity and miscellaneous charges	314 5 6
DALKEY RAILWAY.	
Steam-engine and vacuum pump—Coals	694 14 2
Enginemens and stokers' wages	360 14 10
Oil, tallow, waste	123 12 11

Mechanics' wages for repairs	384 15 2
Materials for repairs	365 19 9
Other expenses	99 11 3
Working main and piston—	
Materials for repairs	741 8 11
Mechanics' wages repairing	129 4 5
Valve-men	59 12 6
Coaches, repairs and maintenance	166 8 5
Superintendents and station-keepers	145 7 1
Ticket-takers, guards, porters, police, door-keepers and night-watch	497 10 5
Other expenses, repairs of cuttings, tax, printing, advertising	215 17 9
Profit and loss, for balance transferred	22,572 2 8
	£54,053 0 10

Patent Office Report.

The Report of the Commissioner of Patents, lately published, shows that during the year ending December 1, 1846, there were 1272 applications for patents. The number of patents issued during the same period was 619, including 13 re-issues, 5 additional improvements, and 59 designs. The number of patents expired, 473. Three applications for extensions have been made, two of which were rejected, and one is still pending. Two patents have been extended by Congress.

There have been received by the commissioner \$50,264 16, of which sum \$11,066 99 have been repaid on applications withdrawn, and for money paid in by mistake. The expenses of the office during the year were as follows: for salaries, \$16,142 97; temporary clerks, \$5,785 61; contingent expenses, \$7,485 19; compensation of district judge, \$100; library, \$675 06; agricultural statistics, \$2,610 68—making the total amount of expenses, \$33,700 41. There was also paid for the restoration of records and drawings, \$786 31, and for duplicate models, \$585—making the aggregate of expenditures, including the amount paid back on withdrawals, \$46,158 71; leaving a balance to be carried to the credit of the patent fund of \$4,105 45.

The amount of money in the treasury to the credit of the patent fund, on the 1st of January, 1845, was \$182,459 69. The balance paid in on the 1st of January, 1847, increases it to \$186,565 14.

The commissioner, in his report, speaks of the existing law by which a subject of Gt. Britain is compelled to pay into the treasury the sum of \$500 before his application can be examined, and the citizens and subjects of all foreign countries to pay \$300 on their respective applications. He says:

"These duties were designed to bear some proportion to the duties required of American citizens making applications for patents in other countries, and on that ground may, perhaps, be justified and defended."

"The effect of this provision is unquestionably to prevent the introduction into this country of many useful and valuable discoveries, which would otherwise be patented and introduced. Similar high duties have the effect to exclude American inventions from other countries. Thus all countries are injured by this system of taxing genius for the exertion of its powers, in order to obtain comparatively a very small and trifling amount of revenue."

"It affords no protection to the American inventor to keep out the discoveries of his foreign emulator (not rival) in the arts, by

taxing the emanations of his genius with high duties, while the country would derive much benefit from their introduction."

The details which follow the report, says the Washington Union, are full of new and interesting facts, and the whole volume embraces nearly four hundred pages.

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

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AMERICAN RAILROAD JOURNAL.

Published by D. E. MINOR, 105 Chestnut St., Philadelphia.

Saturday, May 29, 1847.

Androscoggin and Kennebec Railroad.

It will be seen by the advertisement in the Journal that a portion of this road is now ready for the contractors, and that the remaining portions are to be in readiness in July and September next. This is truly going ahead—and we wish the enterprising and spirited friends of the work all the success in its early completion, that they can possibly desire.

Philadelphia and Trenton Railroad.

The Philadelphia and Trenton Railroad is completed nearly to Bridesburg, the track having been relaid with a very heavy rail, rolled at the Trenton Mills, of a pattern altogether new. When the road is completed, and the trains make their usual speed, this line will connect with the morning line for New York, by which means Philadelphia passengers will be able to get in New York at 9 o'clock in the morning. This will make four regular daily lines between the cities.

The Railroads.

At the last accounts, stockholders of the Connells-ville Railroad Company, had held a meeting in Pittsburgh and exhibited a strong disposition against continuing the negotiations with the Baltimore and Ohio Railroad Company.

A letter was presented from John P. Kennedy, asking ten days delay before closing the negotiation. The following resolution was adopted:

"Resolved, That in compliance with the request of John P. Kennedy, Esq., a zealous friend of the Pittsburgh connection, the stockholders do now adjourn, to meet again at this place on the 29th inst."

There was a strong feeling evinced at the meeting in favor of co-operation with Philadelphia, in the construction of the road.

Meantime, the work of the Pennsylvania Railroad, to unite the two business capitals of this State, will be pushed forward with vigor, and the benefits will be early felt at both extremities, and along the line.

Lowiston and Waterville Railroad.

If any of our friends have ever doubted whether this enterprise would really be undertaken, we think their skepticism is likely to be soon dissipated. By

the notices of the Directors, it appears that the work is to be driven on this season with the utmost energy. They have just ordered an assessment of five per cent. to be paid by the 15th of June next, and have also ordered to be put under contract 15½ miles of the road, from the junction with the Atlantic and St. Lawrence Railroad to Greene Centre. They have resolved too, that the section from Greene Centre to the head of Snow's Pond shall be put under contract by the 15th of July, and the residue of the road to Waterville in September next.

The Boston Lines.

There will be no lack of conveyance between New York and Boston during the present season. There are the two night lines by the Norwich and Stonington routes, with two excellent boats each. The Long Island route, through by daylight; and another by way of New Haven and Springfield. There is also an evening line by the Hartford boat, and probably another by steamboat to Providence. Besides these, a new line is opened via Fall River, which will probably be one of the most popular, as well as pleasant routes; and if a traveller is not satisfied with any of these, he can take a night line to Albany, and proceed to Boston at about the same rate of fare, or take the route of Bridgeport and Housatonic to meet the Albany cars at West Stockbridge, and thence by the Western to Boston.

The Canals.

We learn that the communication between the Delaware Division of the Pennsylvania Canal, and the feeder of the Delaware and Raritan Canal, will be made during the present season. The Canal Company have commenced their portion of the work, and the Canal Commissioners of Pennsylvania have obtained the loan which they were authorized to make for the work on their side, and they will proceed to distribute the contracts as speedily as possible. The present plan is to deepen the channel across the Delaware, and thus avoid any interruption to the raftmen or other interests engaged on the river.

Rochester Flour Trade—Tolls.

The following is a statement of the flour shipped east from Rochester on the Erie canal during the first week of canal navigation:

From opening of navigation to May 8th.....	42,031
Do. to same date in 1846.....	39,900

Increase in 1847..... 2,131

It will be seen that the amount of flour shipped in 7 days this year exceeds the quantity shipped last year in 23 days.

The tolls received during the first week of navigation, are as follows:

1847.....	\$16,678 50
1846.....	7,440 00

Increase in 1847..... \$9,264 50

Railway Traffic.

The editor of the Railway Chronicle—April 24—says: "From our official returns, it appears that the amount of traffic for the last week, on upwards of 2,730 miles of railway, was £159,019, thus accounted for:—£85,638, for the conveyance of passengers only, £39,010 for the carriage of goods, and a remainder of £34,371 for passengers and goods together, not respectively apportioned; being an increase of £24,496 over the corresponding week of last year, when the mileage was about 1,920."

May 1—"It appears that the amount of traffic for the last week, on upwards of 2,730 miles of railway was £161,735, thus accounted for:—£84,223 for the conveyance of passengers only, £42,060 for the car-

riage of goods, and a remainder of £35,452 for passengers and goods together, not respectively apportioned; being an increase of £22,748 over the corresponding week of last year, when the mileage was about 1,920."

Puddling Iron.

Some of our readers, says the Scientific American, may not know what is to be understood by the term "puddling iron"—It is simply putting pig or scrap of iron into a heated furnace, where it melts and boils, being constantly stirred until it becomes dry or hard enough to form a ball. It is then taken from the furnace, put under a heavy hammer, and made into blooms which are drawn between heavy rollers into rods or bars to suit customers.

Iron Trade in England.

There appears to be a slight depression in this branch of business. The enormous demand, however, for railway purposes, which is not likely, from present appearances, to diminish, will, we think, sustain the present prices, if not cause an advance.

LONDON, APRIL 30, 1847.

	E. s. d.	E. s. d.
Bar a Wales—ton.....	0 0—8 15 0	
" London.....	0 0—9 15 0	
Nail rods.....	0 0—10 10 0	
Hoop (staf.).....	0 0—11 15 0	
Sheet.....	0 0—12 15 0	
Bars.....	0 0—11 15 0	
Welsh cold blast foundry pig.....	4 10—5 5 0	
Scotch pig b Clyde.....	3 7 6 3 10 0	
Rails, average.....	2 5—9 10 0	
Russian, CCND.....	0 0—0 0 0	
" PSI.....	0 0—0 0 0	
" Gourieff.....	0 0—0 0 0	
" Archangel.....	0 0—13 10 0	
Swedish d, on the spot.....	0 0—11 15 0	
" Steel, fag.....	0 0—16 10 0	
" " kegs.....	15 0—15 5 0	

a, discount 2½ per cent.; b, net cash; c, discount 2½ per cent.; d, ditto; e, in kegs; f, and ¼ inch.

IRON.—Welsh and Staffordshire have been quiet during the week; Scotch pigs have receded, and there are sellers at quotations; In Swedish and Russian nothing doing.

GLASGOW PIG IRON TRADE, April 28.—Pig iron participates in the present general depression of trade. In the absence of speculation in the article, and from the chariness of consumers about buying, prices are receding every week. Something like a panic seized the holders this week, and numerous parcels changed hands at from 68s. 6d. to as low as 67s. 6d. Now, at this low figure, there are no buyers, and a further decline is looked for.

The City of Reading.

The annexed remarks, from the United States Gazette, will be read with satisfaction. None can feel a deeper interest in the advancement of the city of Reading than ourselves, and we are happy to note the improvements alluded to below, in that rapidly thriving place. The Gazette says—"the good people of Reading are rejoicing in the revival and re-establishment of the Branch of the Bank of Pennsylvania in their city. Yes, the city of Reading—henceforth no longer to be designated by the quaint, old-fashioned cognomen—Reading-town, celebrated only for its annual Fair, and the manufacture of felt hats. We say again, the city of Reading—and a city indeed it has become, not only by legislative fiat, actual incorporation, municipal regulation and appliances from Lord Mayor down, but worthy of the rank, by its population, extent, vast establishments, abounding wealth, and the evidences it every where furnishes of vigorous and successful enterprise. Why, this ancient Borough, surrounded by a population of some sixty thousand Germans, where it was as necessary a few years ago to speak Dutch to make yourself generally understood, as it is still

to speak French to get along comfortably in Montreal or Quebec, will soon present a fair chance to attain a respectable standing in society, and to transact ordinary business with the knowledge of English alone. Their Court House no longer occupies the centre of the street, between the market houses. A new structure has recently been erected for the Courts and public records, upon a liberal scale, in a commanding site, of beautiful proportions, with classic adornments, and magnificent steps, surmounted by a statue of Justice, which should have been, but for which, if we mistake not, a figure of Liberty has been substituted for the sake of more symmetrical finish. Let the Architect, our own Walter, take the responsibility of this, and let no one say the people of Old Berks reverence the Liberty Cap more than the Scales and Sword of Justice.

And what is still more to their honor, a new county prison has recently been commenced, with Haviland for the Architect, with the liberal appropriation of fifty thousand dollars, and more, upon the plan of solitary confinement and labor, embracing all the new improvements in warming and ventilation, and for exercise and supervision."

Atlantic and Ohio Telegraph.

The neglect of the Patentees to ratify the compromise made by Mr. O'REILLY for the immediate construction of the Telegraph Line, from Pittsburgh to Cincinnati and Louisville, is calling forth much complaint at the West. One writer says, "The indignation of the Western people is now showing itself in good earnest. The abandonment of the compromise is loudly called for, and pushing ahead upon the original basis, which has thus far baffled all opposition and detraction."—The Cincinnati Daily Chronicle says:

"We see the Gazette, and occasionally other writers, ask what has become of the Magnetic Telegraph West? We are not one of the Stockholders, but we suspect we know what is the matter with it. The company formed here, had to rely upon the assent of Messrs. Kendall, Smith & Co. The latter were unwilling to give up a portion of their profits to the O'Reilly Company, who possessed the legal right to make the line West, under their contract. Kendall & Co. hold back, and no reliance can be placed upon them whatever. They have not yet given their assent to the contract.

"It was announced some time since, that the O'Reilly Company had commenced making their line West from Pittsburgh. We hope, that as the injunction was removed, they will continue, and finish the line to Cincinnati. There is one thing, the companies looking to profits from Magnetic Telegraphs, should remember, *Lightning* can't be patented, and *wires* can't be patented; for they are in universal use. Nothing is patented, then, but Mr. Morse's particular method of writing down the recruits. Change this method, by any new invention or different construction, and another Company may make another line. This is an important fact, in the idea of future profits from these Companies."

The Telegraph Line between Philadelphia and Pittsburgh is in most admirable working order and continues to give universal satisfaction. Much credit is due to the industry, ingenuity and gentlemanly bearing of the Superintendent, JAS. D. REIN, Esq., and the young gentleman operators on the line for the popular favor it has attained. We annex the following from the Daily Advertiser of this city:

"We learn from an authentic source that this model line fully sustains the high estimate of its capabilities, which was formed prior to its going into operation. No breaks occur daily to interrupt communication, but every thing goes on with the utmost regularity. The substantial manner in which the line was constructed, ensures a degree of permanency, which is sadly wanted in most other lines.

"We understand that every thing is now in rea-

diness for the extension of the line from Pittsburgh west. Mr. O'Reilly will superintend the work in person—a fact which affords an ample guarantee that it will be done well and speedily. Mr. O'R., by his indefatigable exertions, and unquestioned integrity, has won the unlimited confidence of the business men and the press, in the section of country which he has traversed. That he will continue to enjoy it, we both hope and believe.

"We may add, for the information of stockholders in the Philadelphia and Pittsburgh line, that a dividend will be declared on the 1st July, and afterwards quarterly.

Railroads.

The Trenton (Tenn.) Emporium, in a lengthy and well-written article upon the subject of railroads—in connection with the great resources of the south and west—remarks that "the valley of the Mississippi is destined not only to sustain its own countless millions of future population, but to furnish large supplies of various kinds, to other less favored sections of our own country, and to become the granary and storehouse of a large portion of the civilized world. The millions of the products of this teeming region must find their way by various outlets to the Atlantic seaboard, or to the Gulf of Mexico; there to be consumed or to be shipped to foreign countries. The father of waters and its tributaries afford a natural, but a long, tedious and dangerous outlet, for the surplus products of the great valley, and the foresight and enterprise of our brethren of the Eastern States and cities have already opened various artificial channels, for diverting this immense trade, from its down stream tendency, more directly to their own ports and warehouses. First turnpike roads, rivers and canals were constructed or improved for this purpose; but, more recently, railroads, for travel and transportation, and telegraphic wires, for the transmission of intelligence, have given a new impetus to the traffic through these channels, and to the Herculean efforts now making for their multiplication and extension. Not less than six or seven great lines between the Atlantic ports and the great valley of the west have already been commenced, and are now in more or less rapid progress. Even in the extreme northeastern section of the Union—Portland is endeavoring through Canada, and by way of the Lakes, to reach this mine of inexhaustible wealth, and her works, in concert with those of Canada, are now being prosecuted with energy. Next comes Boston, with her immense capital, her noble enterprise and her far-reaching policy. Not content with one great line of communication with the great west, she avails herself of the improvements of all her neighbors, and is vigorously pressing forward in at least two directions, for the great prize, contending with New York in her own proper sphere, and passing the Niagara through Upper Canada, she will speedily penetrate the rich and populous regions beyond Lake Erie. Her superior forecast and energy draw all within her vortex.

The Empire city, after completing her great Erie canal, relying upon her superior natural advantages, rested from her labors for a time, until she found herself outstripped by her more enterprising neighbor. But now being awakened to the danger, is pushing forward the New York and Erie railroad, hoping to regain her supremacy.

Pennsylvania also is not idle, but in addition to her canal and railroad communication with Pittsburg, is now strenuously urging forward her Great Central railway, which it is in contemplation to extend speedily through the capitals of Ohio, Indiana and Illinois, to the Mississippi, at St. Louis or Alton.—This, when completed, will be the most important

of all the principal railways penetrating the great valley.

Next in order comes the Baltimore and Ohio railroad, one of the first and boldest enterprises of the time. Through many difficulties, this undertaking of late has advanced under better auspices. It is, however, to be feared, that competition with rival lines may dim its prospects, and retard its progress.

The Old Dominion has at length opened her eyes to the importance of securing a participation in the traffic of the great western valley, and has recently granted a very favorable charter to the Richmond and Ohio road, which it is hoped will induce enterprising capitalists to embrace it with avidity.

Last, though not least in importance, and of the most immediate interest to the southern section of the Union, come the works of South Carolina and Georgia, which now united have nearly reached the southern boundary of Tennessee. An advantageous charter has been granted to the Nashville and Chattanooga railroad company, which promises speedily to commence operations; and this, with the Central railroad, now in contemplation, will complete the communication between the Mississippi river and the Atlantic, at Charleston and Savannah.

These railroads are the iron bands that will bind the various sections of our beloved country together by a community of interest and fraternal feeling, and it is hoped, will render our union indissoluble. The last named of these great public works being of paramount and vital importance to the State of Tennessee, particularly to our portion, it will receive further attention in future numbers."

Philadelphia, Wilmington, and Baltimore Railroad Company.

Our readers are aware that for several weeks past an effort has been made on the part of the stockholders and bondholders of this company, for the purpose of relieving it from a large portion of its heavy indebtedness, and improving the condition of the road.

We are happy to state, adds the Gazette, that on the 1st inst. this important and much desired arrangement was fully accomplished, and the debts of the corporation greatly reduced.

The only debt of the Company at this time, is the funded mortgage loan, payable in 1860, and amounting to \$2,161,776 05. The second mortgage loan of £192,500 sterling and the entire floating debt, have been extinguished by a conversion into the stock of the Company at par.

By this arrangement, the annual interest, payable by the Company, is reduced to the sum of seventy thousand dollars. Every note of the Corporation has been paid—and with the large and increasing business of the road, there is now a sure guarantee that its condition will be improved, and the speed of travel increased between the two cities.

The greater portion of the stock of this Company has recently been purchased by capitalists in New England, who have taken it under the conviction that a main line of Railroad, connecting two such cities as Philadelphia and Baltimore, must become productive of handsome profits, if properly improved and equipped, and judiciously managed.

As an earnest of their intention to place the work in an improved condition, we learn that the Iron is now on hand to relay ten miles of track, when the whole line will be continuous heavy edge rail.

This desirable arrangement, which required the unanimous consent of all parties in interest, has been a work of great labor, and we heartily congratulate all the parties and the public upon its successful consummation.

MASSACHUSETTS ANNUAL RAILROAD REPORTS.

Return of the Old Colony Railroad Company, under the Act of April 16, 1846.

Capital stock.....	\$1,900,000 00
Increase of capital since last report.....	500,000 00
Capital paid in, per last report.....	888,730 00
Capital paid in since last report.....	310,570 00
Total amount of capital stock paid in.....	1,199,300 00
Funded debt, per last report.....	
Funded debt paid since last report.....	
Funded debt, increase of, since last report.....	
Total present amount of funded debt.....	
Floating debt, per last report.....	
Floating debt paid since last report.....	
Floating debt, increase of, since last report.....	233,675 11
Total present amount of floating debt.....	
Total present amount of funded and floating debt.....	
Average rate of interest per annum on do.....	5 1/2 per cent.
Interest on floating debt.....	7,237 91

COST OF ROAD AND EQUIPMENT.

For interest paid stockholders to Dec. 1, 1845.....	29,356 11
For graduation and masonry, per last report.....	109,969 30
For graduation and masonry, paid during the year.....	35,670 56
Total amount expended for graduation and masonry.....	145,639 86
For bridges, per last report.....	36,827 12
For bridges, paid during the past year.....	19,104 25
Total amount expended for bridges.....	55,931 37
For superstructure, including iron, per last report.....	268,229 85
For superstructure, including iron, paid during the past year.....	61,011 01
Total amount expended for superstructure, including iron.....	329,240 86
For stations, buildings and fixtures, as per last report.....	30,951 35
For stations, buildings and fixtures, paid during the past year.....	80,582 23
Total amount expended for stations, buildings and fixtures.....	111,533 63
For land, land-damages and fences, per last report.....	325,426 94
For land, land-damages and fences, paid during the past year.....	269,966 68
Total amount expended for land, land-damages and fences.....	595,393 62
For locomotives, per last report.....	20,350 95
For locomotives, paid during the past year.....	15,723 41
Total amount expended for locomotives.....	36,073 36
For passenger and baggage cars, per last report.....	13,427 94
For passenger and baggage cars, paid during the past year.....	11,172 44
Total amount expended for passenger and baggage cars.....	24,610 38
For merchandise cars, per last report, [including gravel cars, \$4,700].....	9,800 00
For merchandise cars, paid during the past year, [including gravel cars, \$2500].....	8,722 30
Total amount expended for merchandise cars.....	18,522 30
For engineering and other expenses, per last report.....	18,542 10
For engineering and other expenses, paid during the past year.....	7,070 00
Total amount expended for engineering and other expenses.....	25,612 10
[Amount paid on account of construction of Abington and Bridgewater branch].....	17,906 95
Total cost of road and equipment.....	\$1,397,058 77

CHARACTERISTICS OF ROAD.

Length of road.....	37 miles.
Length of single track.....	27 miles.
Length of double track.....	None except turnouts.
Length of branches owned by the company, stating whether they have a single or double track.....	
Weight of rail per yard in main road.....	56 pounds.
Weight of rail per yard in branch roads.....	
Maximum grade, with its length in main road.....	39.6 ft., length 6000 ft.
Maximum grade, with its length in branch roads.....	
Total rise and fall in main road.....	5072 feet.
Total rise and fall in branch roads.....	
Shortest radius of curvature, with length of curve in main road.....	716 ft., length 500 ft.
Shortest radius of curvature, with length of curve in branch roads.....	
Total degrees of curvature in main road.....	790° 30'.
Total degrees of curvature in branch roads.....	
Total length of straight line in main road.....	30 miles, 179 feet.
Total length of straight lines in branches.....	
Aggregate length of truss bridges.....	94 ft.
Whole length of road unfinished on both sides.....	6.8 miles, Abington

DOINGS DURING THE YEAR.

Miles run by passenger trains.....	63,073
Miles run by freight trains.....	22,642
Miles run by other trains.....	19,750
Total miles run.....	105,465
Number of passengers carried in the cars.....	213,144
Number of passengers carried one mile.....	3,459 971
Number of tons of merchandise carried in the cars.....	116,197
Number of tons of merchandise carried one mile.....	299,394
Number of passengers carried one mile, to and from other roads.....	26,225
Number of tons carried one mile, to and from other roads.....	
Average rate of speed adopted for passenger trains, including stops.....	29 miles per hour.
Average rate of speed adopted for freight trains, including stops.....	19 1/2 do.
Estimated weight in tons of passenger trains, including engine and tender, but not including passengers, hauled one mile.....	
Estimated weight of merchandise trains, including engine and tender, but not including freight, hauled one mile.....	

EXPENDITURES FOR WORKING THE ROAD.

For repairs of road, maintenance of way, exclusive of wooden truss bridges and renewals of iron.....	\$8,604 06
For repairs of truss bridges.....	
For renewals of iron, including laying down.....	
For wages of switch-men, gate-keepers and flag-men.....	
For removing ice and snow.....	
For repairs of fences, gates, houses for flag-men, gate-keepers, switch-men, tool-houses.....	
Total for maintenance of way.....	8,604 06

MOTIVE POWERS.

For repairs of locomotives.....	2,723 91
For new locomotives to cover depreciation.....	
For repairs of passenger cars.....	1,950 20
For new passenger cars to cover depreciation.....	
For repairs of merchandise cars.....	1,599 63
For new merchandise cars to cover depreciation.....	
For repairs of gravel and other cars.....	
Total for maintenance of motive power.....	6,273 14

MISCELLANEOUS.

For fuel and oil.....	11,905 65
For salaries, wages and incidental expenses, chargeable to passenger department.....	12,049 50
For salaries, wages and incidental expenses, chargeable to freight department.....	5,959 60
For gratuities and damages.....	655 00
For taxes and insurance.....	210 50
For ferries.....	
For repairs of station building, aqueducts, fixtures, furniture.....	
For interest.....	
For amount paid other companies in tolls for passengers and freight carried on their roads, specifying each company.....	
For amount paid other companies as rent for use of their roads, specifying each company.....	3,000, Worcester railroad.
For salaries of president, treasurer, superintendent, law expenses, office expenses of the above offices, and all other expenses not included in any of the foregoing items.....	8,572 52

INCOME DURING THE YEAR.

For Passengers:	
1. On the main road exclusively, including branch owned by company.....	101,857 64
2. To and from other roads, specifying what:	
For Freight:	
1. On main road and branches owned by company.....	20,403 93
2. To and from other connecting roads:	
U. S. mails, rents, and miscellaneous expenses.....	3,449 67
Total income.....	125,711 26
Net earnings after deducting expenses.....	68,481 20

DIVIDENDS.

Surplus not divided.....	63,000 00
Surplus last year.....	5,481 20
Total surplus.....	5,481 20

ESTIMATED DEPRECIATION BEYOND RENEWALS, VIZ:

Road and bridges.....	
Buildings.....	
Engines and cars.....	

Nathan Carruth, John Sever, Isaac L. Hedge, Jacob H. Loud, William Thomas, Josiah Quincy, Jr., Uriel Crocker.

Railroad to the Pacific.

SPEECH OF MR. WHITNEY.

(Continued from page 33.)

The last question is answered partly by the answer to the first, that the settlement which must take place, will, of itself, maintain it. And it will be seen that this will be the shortest, cheapest, and most direct route even from Europe to Asia, and all the Islands of the Pacific and Indian Oceans.

Mr. WHITNEY here exhibited a large skeleton map showing our exact position, in the centre of the world, with the Atlantic on one side, and the Pacific on the other side of us. Europe, with her population of 250,000,000, and Asia, with 700,000,000, this road to be the centre of, and thoroughfare for all. He, also, exhibited, and read tables of distances for the present route around the cape, and the distances for routes by proposed canals, all compared with this railroad, which tables are at foot. He, also, explained and described the importance of the commerce of Asia, China particularly, and showed conclusively that it may all be brought on this road. He, also, showed that the expenses of bringing teas and such-like goods from China to New York by this road, the lakes and our canal, would be as low as it now is by ship. He then said:—

The necessity for this road must be manifest to all, as the only means by which almost all the vast country through which it would pass can ever be settled, or made of use to mankind; and as the only means of connexion and intercourse with Oregon, on which subject I will read from the report of Senate's committee, page 13:—

"Another powerful consideration in favor of the proposed road the committee will advert to. It is the probability of the occurrence, that, as the Territory of Oregon, now so distant from us, fills up with an enterprising and industrious people from the several States, they will attract to them settlers from different parts of Europe, all wishing to share in the benefits of our free government, and claiming its protecting care, which cannot be enjoyed or bestowed in full measure, by reason of the difficulty of access by land and by water. A well grounded apprehension seems then to exist, that unless some means like the one proposed, of rapid communication with that region, be devised and completed, that country, soon to become a State of vast proportions and immense political importance, by reason of its position, its own wants, unattended to by this government, will be compelled to establish a separate government—a separate nation—with its cities, ports, and harbors, inviting all the nations of the earth to a free trade with them. From their position, they will control and monopolize the valuable fisheries of the Pacific, control the coast trade of Mexico, South America, and the Sandwich Islands, and other islands of the Pacific, of Japan, of China; and of India, and become our most dangerous rival in the commerce of the world. In the opinion of the committee, this road will bind these two great geographical sections indissolubly together, to their mutual advantage, and be the cement of a union which time will but

render more durable, and make it the admiration of the world."

It has been objected that such a work cannot be built and carried on through a wilderness. I answer. If it was not a wilderness I could not have the only means, the lands, for such a work, and I propose to make the work itself change the wilderness, the waste, to cities, towns, villages, and richly cultivated fields. It is also objected, that our country is not old enough and without population to embark in an enterprise so vast. I answer. We have already about 8,000 miles of railroad in operation at a cost or outlay of about \$160,000,000; that our population is at this time 21,000,000, will double in twenty-two years, and if we have been able up to this time, with our small population and smaller means to complete the 8,000 miles, by the double of our population and consequent double of means, we shall be as able to double the miles of railroad; and the comparison is greatly in favor of the future, because many of our present railroads are exclusively means of travel, and have not developed sources of production and wealth. Our increase of population in twenty-two years would give for this road and the Pacific 11,000,000, and leave ten millions for the old State.

But let us see what we want for this road. I make my calculations, and predicate the whole upon the sale and settlement of the 800 miles of the first part; therefore this 800 miles by 60 miles wide, would give 30,720,000 acres. Now allow 160 acres for each family of 5 persons, and it would require 195,000 families, together 960,000 souls. It will require from the commencement five years to complete this 800 miles, (and 15 years the entire) and to sell and settle the 800 miles in 5 years would require per annum 38,400 families, or 192,000 souls; but as it is not necessary to sell and settle more than one half while the entire 800 miles is being built, 19,200 families, or 96,000 souls per annum is all that would be wanted, which is less than 1-7th of our now yearly increase of population; and only about half of what we may expect the yearly emigration from Europe during that period.

It has been my endeavor to show that this road can be built upon the plan I have proposed, and that the means which I have asked for will be made ample only by the road, and I hope I have not failed so to do. But there are other views and opinions to satisfy—there are those, who (perhaps without examination) think or fear, too much may be gained to those who may be interested with me in the work, that it may create much individual power, accumulate lands in individual hands, etc., etc. In answer, I say the land is now worth little or nothing; if of any value hereafter, that value would be derived from the road alone, and those who buy the land on its borders would receive all the benefit; that the lands must be sold and settled, or the road cannot be built; and as the government have 1,000,000,000 millions of acres, there could be no monopoly in sale; if the price demanded too high the lands

would not sell and the road not built; that lands cannot accumulate because the act will provide and fix the time of sale at public auction, and in lots of 40 to 160 acres. As to individual power that can never obtain, because at the will of the people Congress could at any time repeal the act, or make such enactments as would be necessary; and if its management at any time should operate to the disadvantage of the people, why, there could be but one voice against the many, and a change forced to take place. Benefit to myself—I have not undertaken this work with the expectation of benefit to myself; it will probably (if I succeed) require all my life, and were I to gain millions it could do me no good. I have undertaken it for the good of my country first, and after that all mankind, and think if I should live to see its accomplishment, I shall not be disappointed in its results; that it can be completed with the means proposed I am full well persuaded. I think I have examined the subject in all its bearings.

The road being built from the public lands, will, when done, be public property, and not subject to tolls beyond sufficient to keep in repairs and operation; and in order to attain the object we aim at, (to make it the thoroughfare for the commerce of all Asia) it will be necessary to keep it under one general management, so that its operation may be regular and punctual from one end to the other; which I should be directed by Congress, under individual management, the same as the building of the road: Therefore, I propose to keep it in repairs and operation, and I further propose to pay for all the lands at 16 cents per acre—subject to sale as directed by the Act of Congress fixing and regulating the tolls of the road at each session ever afterwards.

I might speculate upon the future, and predict what will be the vast results from the accomplishment of this great work; but it has been my object to give you a plain, simple statement, based upon facts only—and you can see all. The subject is before you. The field is open to the mind, and I think, plain to all. It will open to settlement and cultivation a wilderness more than 2500 miles in extent, giving it free intercourse and rapid communication with all the world. It will so extend agricultural production, and afford exchanges to sustain all other branches of industry, so that I may be almost allowed to say, it will give every man, woman and child the means to live if they will work. It will give us the means, and force the completion of the New York and Erie, the Pennsylvania, the Baltimore and Ohio, the Richmond and Ohio, and the Charleston roads, to Ohio, where they will all join in one, and run on to join this where it crosses the Mississippi, when the grand centre will be near the Missouri, when it will require but 2½ days to any city on the Atlantic, 2½ days to the Pacific, and 25 to any part of the Globe. Thus, we are brought together at the grand centre as one family in 2½ days, and the whole world to the same centre as one nation in 25 days. And it would carry with it from

Ocean to Ocean a belt of population 3400 miles in extent, with the same manners, habits, thoughts, actions, interests, yes, religion, the centre of, and grand thoroughfare for, all the world, a flood of light, life and liberty, which should spread over, enlighten and enliven the heathenism of all Asia.

Comparison between voyages to be made through a proposed Canal at Nicaragua and those actually made via Cape Horn and the Cape of Good Hope.

The following calculations are from the authority of Prof. Wittish, of the London University, and calculated from Plymouth, from New York for voyages around the Cape, would vary distance but little, but from New York to the proposed canal, would be 1500 to 2000 miles less:—

To Valparaizo via Cape Horn.

From Plymouth to the Canaries.....	1,400
Thence to the region of Calms or 6 deg. N. lat. east of Cape de Verdes.....	1,500
Thence to the Equator through the Calms....	360
From the Equator to Cape Frio.....	1,500
Thence to 40 deg. S. lat.....	1,100
Thence to Statenland.....	1,000
From its eastern cape to 60 deg. S. lat. and 65 deg. W. long. and around Cape Horn to 89 deg. W. long.....	840
Thence to 60 deg. S. long. close to the meridian of 85 deg.....	1,250
Thence to Valparaizo.....	450

Requiring 100 to 117 days.....miles 9,400

To Valparaizo, via the proposed Canal:—

From Plymouth to 25 deg. N. lat. and 30 deg. W. long.....	1,600
Thence to the straits between San Lucia and St. Vincent.....	2,200
Thence to San Juan de Nicoragua.....	1,400
Passage through the canal.....	278
From Realejo to Guayaquil.....	1,100
Thence to Callao.....	900
Thence to Valparaizo.....	1,500

Requiring 100 to 106 days.....miles 8,978

To Sydney or Australia, via Cape of Good Hope:

From Plymouth to the Equator, as before.....	3,260
From the Equator to the Island of Trinidad.....	1,230
Thence to the Cape north of Tristan d'Acunha.....	3,250
From the Cape to Bass' Straits between 38 and 40 deg. S. lat.....	2,850
Thence to Sydney.....	450

Requiring 120 to 133 days.....miles 14,030

To Sydney or Australia, via the proposed Canal:

From Plymouth to Realejo, through the Canal.....	5,478
Thence to Galapagos Island.....	756
Thence past the Marquesas to 150 deg. W. long.....	3,600
Thence to 180 deg. W. long. and 28 deg. S. lat. through the Island.....	2,000
Thence to Sydney.....	2,000

Requiring 105 days.....miles 13,528

From Sydney to Eng., via Cape Horn.....	13,948	136
" " " via Canal.....	14,848	138

To Canton (China) via Cape of Good Hope, during northeast monsoon:—

From Plymouth to the Cape as before.....	7,730
Thence past the island of St. Paul's to 110 E. L. and 32 S. L.....	4,620
Thence to Allas Straits between Lombok and Sumbawa.....	1,560
Thence to Pitt's Straits.....	1,230
Thence to Pellew Islands.....	540
Thence to Ballinglang Straits.....	600
Thence to Canton.....	600

Requiring 120 to 150 days.....miles 16,860

To Canton, via the proposed Canal north-east monsoon:—

From Plymouth to Realejo through the canal.....	5,478
Thence to Canton between 10 and 20° N. L. through Formosa Straits.....	10,360

Requiring 111 days.....miles 15,838

Homeward, Canton to England, via Cape Good Hope:—

During southwest monsoon.....	14,910	110 to 130 days.
do to do via Canal S. W. do.....	15,558	129 days.

To Singapore, via the Cape of Good Hope, during southeast monsoon:—

From Plymouth to the Cape as before.....	7,730
Thence to Auger Point in Sunda Straits.....	6,050
Thence to Singapore.....	560

Requiring 100 to 130 days.....miles 14,350

To Singapore, via the proposed canal, during such southeast monsoon:—

From Plymouth to Realejo through the canal.....	5,478
Thence to the Ladrone.....	8,600
Thence to Pitt's Straits.....	680
Thence to Gaspar Straits.....	2,600
Thence to Singapore.....	380

Requiring 110 to 130 days.....miles 17,739

To Singapore, via the Cape, N. E. monsoon, 14,350, 100 to 130 days.

To Singapore, via the canal, N. E. monsoon, 16,578, 100 to 117 days.

The following sailing distances were calculated by Lieut. Maury, at the United States Observatory, Washington:—The distance from New York by proposed railroad to the Pacific is estimated at 3,400 miles, but will probably fall short of that distance. Sixteen miles per hour for freight and thirty for passengers, with one day for delays, is estimated for the railroad, and twelve miles per hour for steamers in the Pacific, etc. with ample time for coaling, detention, etc. In estimating for sail vessels, the freight time on the road is taken.

To calculate from England, 3,000 miles distance, and thirty days for sail and ten for steamers is to be added.

From New York by railroad to Columbia river or to San Francisco, 3,400 miles, eight days for freight, five and a half days for passengers.

To Japan, via Railroad to the Pacific.

To the Pacific, as before.....	3,400	8	54
Thence to Japan.....	4,000	30 to 35	144

7,400 miles 43 sail 90 steam.

To Chang-hai in China, at the mouth of the great Yang-tse-keang, which at a short distance from its mouth crosses the great canal at Pekin, and where all the commerce of the vast Empire of China centres, and where all the foreign commerce (when this road is opened) will be carried on, is from N. York to the Pacific, as before,

	3,400	8	54
Thence to Chang-hai	5,400	35 to 40	20

8,800 miles. 48 sail. 25 steam.
The distance to Canton would be 800 miles greater.

To Austria, via the proposed railroad.

From N. Y. to Pacific, as before.....	3,400	8	54
Thence to Austria, via Sandwich Islands.....	6,000	40	23

9,400 mls. 48 sail. 27½ steam.

To Singapore, via the proposed Railroad:

From N. Y. to Pacific, as before.....	3,400	8	54
Thence to Singapore, via the Ladrone and other Islands.....	6,660	50	25
	10,060	58 sail 30½ steam.	

All the commerce of the Pacific and Indian Oceans may be carried on in steamers from Oregon, because the steamers could be supplied with fuel (coal) from Oregon, (Vancouver's Island particularly) Japan, China, as low down as Formosa and Australia. But for any other route the fuel (coal) must be taken from England or the Northern States, and the long voyages to China, to Australia and Singapore would require fuel beyond the capacity to carry.

ITEMS.

New Fashioned Railroad.—M. Audrand, an individual well known in Paris for his unremitting exertions, for the last seven years, to perfect a system of railroad travelling by means of compressed air, seems at length in a fair way to succeed; he has laid down a way 100 yards long, upon which a carriage, built for the purpose, is impelled, upon his new principle, with an ease and smoothness heretofore not attained on the ordinary railroads. There is no locomotive necessary to move it, inasmuch as this is accomplished through a tube laid in the centre of the road, with a pipe by its side, which keeps up the motive power. This system, the inventor undertakes to show, is vastly preferable in all respects, to that of the atmospheric. It combines all of its advantages, while it is subject to none of its imperfections. It unites entire safety with the capacity to run 15 to 50 miles per hour. The cost of keeping it in motion is stated to be less than one-half of that of engine-propelled carriages. We can place but little confidence in the invention, however, without having some definite description of its peculiarities of construction.

Iron Trade of America.—There are no data by which we can ascertain the quantity of iron produced in the United States, prior to 1810. At that time, according to the official returns, the quantity of bar iron made in this country was 24,471 tons; then valued at \$2,640,778, of which 10,969 tons were made in Pennsylvania. From that time to 1830, the quantity had increased to 112,860 tons; in addition to which, 25,250 tons of castings were also made—the value of both amounted to \$13,323,760; in making this quantity 29,254 men were employed, and 146,273 subsisted, whose annual wages amounted to \$8,776,420, and that in their support the farmer furnished food to the value of 4,000,490 dollars.

The average quantity of hammered iron imported into the United States from 1821 to 1830, was about 26,200 tons annually, and of rolled iron about 5600 tons—making, together, 31,800 tons, and valued at 1,762,000 dollars.

The whole quantity of hammered and rolled iron consumed in the United States in 1830, may be estimated at about 144,666 tons.

The value of the various foreign manufactures of iron consumed in this country, on an average, from 1821 to 1830, was about 4,000,000 dollars yearly, making the whole amount of foreign iron and its manufactures annually consumed in the United States, say 5,762,000 dollars. If the whole quantity made in the United States in 1830, were computed in pig iron, it would amount to 191,736 tons—produced from 239 furnaces, averaging fifteen and a half tons each furnace per week—two-fifths of this quantity were made in Pennsylvania. The quantity made in all the States in 1837 may be fairly taken at 250,000 tons.—*Scrivener's History of the Iron Trade.*

Improved Vertical Water Wheel.—Of the numerous recent improvements, or at least variations and modifications of water wheels, nineteen-twentieths of them have been on horizontal motions while the vertical motion—which is in most general use—has been comparatively overlooked. But we have recently examined the plan of a vertical wheel invented by Mr. W. C. Burbank, of Flatbush, N. Y., which appears likely to supersede to great extent, both the overshot and breast wheel for heavy water powers. The plan is decidedly novel and will evidently give more power, by five or ten per cent, than the overshot. We had thought of procuring an engraving, but that not being immediately convenient, we shall attempt a brief description without it. This may be called the vertical drum wheel, the periphery being close and without any appearance of buckets. It has a second close drum periphery within the first, from 10 to 20 inches distant, according to the quantity of water to be used. Between these two peripheries are arranged a series of buckets, constructed in the form of a V, with the angle in the centre. The space between the buckets is open at the sides of the wheel, and the water is supplied and discharged through these open spaces on both sides. Of course, whatever momentum there may be in the feeding current, is exerted on the wheel, and the water cannot escape till it reaches the lowest point of the circle, and then leaves the wheel freely, and without resistance.—*N. Y. Farmer and Mechanic.*

Hydraulic Invention.—A Mr. Steele, of Swansea, England, has invented a valve pipe for the purpose of trying whether as in the method in which our blood circulates, water can be raised to any height from the power of waves exerted upon a surface of water.—That this method will be useless for practical purposes, we have no doubt, as the power required to make the waves that would raise the water to any given height, would be far more economically expended by the force pump.

American Iron.—The Rochester Democrat states that iron was first made in this country in 1715, in Virginia. In Orange County, New York, a furnace was erected in 1761, and 1500 tons of pig, and 1000 tons of bar made annually. The great iron chain that crossed the Hudson river during the revolution, each link of which weighed 140 pounds, was made there. Peter Townsend made the first cannon there in 1816.

BOUND VOLUMES.

Volumes of this Journal, for the Years 1838 to 1846, INCLUSIVE, may be had Bound, at Subscription Price, on application at this Office.

MISSING NUMBERS

OF THE RAILROAD JOURNAL.

Subscribers, who wish to obtain Missing Numbers of Back Volumes of this Journal, will do well to apply immediately.

One or two COMPLETE SETS of the RAILROAD JOURNAL may be had in a few weeks—or as soon as two numbers can be reprinted—by application to the Editor.

NOTICE TO CONTRACTORS.—ANDROS-COGGIN AND KENNEBEC RAILROAD. Proposals will be received at the Railroad Office, in Lewiston, until the 17th of June next, for the Grading and Masonry of the 1st Division of the Road, extending from the Atlantic and St. Lawrence Road in Danville, to Green centre, 14½ miles.

Also, separately, for the Masonry and Woodwork of the Bridges across the Great and Little Androscoggin Rivers, the Bridges to be constructed on Towne's plan.

Plans and Profiles will be ready for examination, and the route shown, on and after the 10th of June. Satisfactory surities will be required of bidders unknown to the officers of the company.

The 2d Division, extending to Snow's Pond in Belgrade, 25 miles, will be ready for contract about the 25th of July; and the remainder of the road to Waterville, about the 20th of September.

HOBART CLARK, Agent A. & K. R. R.
EDWARD APPLETON, Engineer.
Railroad Office, Lewiston, May 8, 1847. 4131

CHAMPLAIN & CONNECTICUT RIVER RAILROAD.—Notice to Contractors.—Proposals will be received until the 1st day of June, 1847, for the Grading, Masonry and Bridging of that part of the Champlain and Connecticut River Railroad, extending from the west side of the summit at Mt. Holly to the Village of Brandon, a distance of about 34 miles, and being the whole uncontracted portion of said road.

Maps, Profiles and Specifications may be found after the 20th of May next at the Office of the Engineer in Rutland, where every necessary information will be given.

The line will be divided in sections of convenient length for construction, and from those to whom the work may be awarded, satisfactory security will be required.

Proposals may be left with the undersigned, at Burlington—with George T. Hodges, Esq., at Rutland—or with William Henry, Esq., at Bellows Falls.

The work will be awarded at Rutland, as soon after the 1st of June, as the necessary examination of the bids can be made. By order of the Board,

T. FOLLETT, President.
Office of the C. & C. R. R. Co., }
Burlington, Vt., April 29, 1847. } 3120



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc. ANDREW MENEELY.

West Troy, May 12, 1847. 1y*21

PIG AND BLOOM IRON.—THE SUBSCRIBERS are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware etc. Also several brands of the best Puddling Iron, Juniata Blooms, suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of Iron is solicited by

A. WRIGHT & NEPHEW,
Vine St. Wharf, Philadelphia. 121c

RAILROAD IRON.—THE "MONTGOMERY" Iron Company, Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to **MURDOCK, LEAVITT & CO.,** Agents, 1y48 77 Pine St., New York.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Floods and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper-barrels, by **JOHN W. LAWRENCE,** 142 Front street, New York.

Orders for the above will be received and promptly attended to at this office. 331y

A. & G. RALSTON & CO., NO. 4 South Front St., Philadelphia, Pa. Have now on hand, for sale, Railroad Iron, viz: 180 tons 2½ x 1 inch Flat Punched Rails, 20 ft. long. 25 " 2½ x 1 " Flange Iron Rails. 75 " 1 x 1 " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures. 11f

LOCOMOTIVE AND CAR AXLES. The Subscribers are now prepared to receive orders for the well known and approved Reading Locomotive and Car Axles—drawn to any required pattern from Bloom Iron only. Address **SAM'L KIMBER & CO.,** Willow Street Wharf, Philadelphia, Pa. 41f

RAILROAD IRON.—THE NEW JERSEY Iron Company, Boonton, N. J., are now preparing to make Railroad Bars, and are ready to take orders or make contracts for Rails, deliverable after the first of December next. Apply to **FULLER & BROWN, Agent,** No. 139 Greenwich, corner of Cedar street. September 18, 1846. 1039

RAILWAY IRON.—DAVIS, BROOKS & Co., No. 68 Broad Street, have now in port on Ship-board, 200 Tons of the best English heavy H Rails, 60 lbs. to the lineal yard, which they offer for sale on favorable terms, also, about 6 to 700 Tons now on the way, to arrive shortly, of the same description of Rail. 461

TO CONTRACTORS.—KENNEBEC AND PORTLAND RAILROAD.—Proposals will be received at this office until the 15th of May, for the Grading and Masonry of 28 miles of this road, extending from North Yarmouth to Bowdoinham, and the Branch Road from Brunswick to Bath, including the masonry for the Bridges across the Androscoggin, New Meadows and Cathance rivers. The line of road and the plans and profiles will be ready for examination on the 10th of May; after which time any information in relation to the work can be had at this office, or of the Resident Engineers on the line of the road.

Persons unknown to the officers of the company, must accompany their bids with satisfactory evidence of their ability to execute the work.

The remainder of the line from Bowdoinham to Augusta, 21 miles, will be ready for contract about the 15th of June; of which due notice will be given.

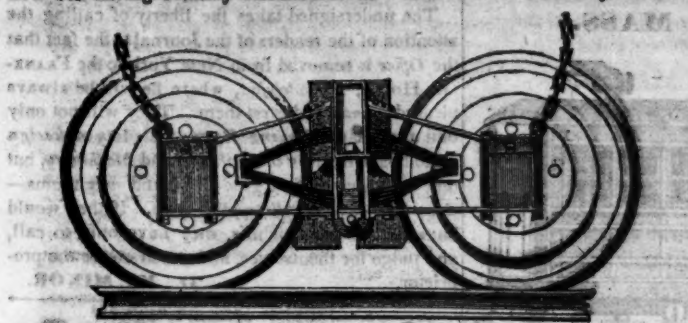
GEO. S. GREENE, Eng. K. & P. R. R.
ENGINEERS OFFICE, K. & P. R. R. }
Brunswick, Me., April 6, 1847. } 1m16

THE SUBSCRIBER IS PREPARED TO execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip, New York. 1y10

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER

having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly improved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East

river, (of which firm the subscriber was late a partner) under the immediate supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846.

W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the best and most economical truck now in use.

[Signed,]

WILLIAM ROSE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845.

[Signed,] G. A. NICOLLS.

Sup't Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use.

[Signed,] T. L. SMITH.

Jersey City, November 4, 1845.

N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car.

For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot,

[Signed,] JOHN LEACH,

Jamaica November 12, 1845.

1y19 Sup't Motive Power.

ENGLISH PATENT WIRE ROPES.—FOR THE USE OF MINES, RAILWAYS, ETC.

for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,

75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.				HEMPEN ROPES.				CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.		Circumference of rope.	Weight per fathom.		Weight per fathom.	Diameter of iron.	Tons.	
	INCH.	LBS.	OZ.	INCH.	LBS.	OZ.	LBS.	INCH.	..	
11	4½	13	5	10	24	-	50	15-16	20	
13	3½	8	3	8½	16	-	27	11-16	13½	
14	3½	6	11	7½	12	8	17	9-16	10½	
15	2½	5	2	6½	9	4	13½	1-2	7½	
16	2½	4	3	6	8	8	10½	7-16	7	

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

THE SUBSCRIBERS, AGENTS FOR

the sale of
Codorus,
Glendon,
Spring Mill and
Valley, } Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay orders for which are promptly supplied.

SAM'L. KIMBER, & CO.,

59 North Wharves,
Jan. 14, 1846. [1y4] Philadelphia, Pa.

RAILWAY IRON.—THE BEST QUALITY
of English Heavy H Rails—60 lbs. to the yard—now in store, landing from the vessel, and on ship board to arrive, for sale on most favorable terms by
DAVIS, BROOKS, & CO.,
Jan. 2. [1y4] 68 Broad St., New York.

RAILROAD SCALES.—THE ATTEN-

tion of Railroad Companies is particularly requested to Ellicott's Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLCOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.
Office, No. 3 North 6th street,
Philadelphia, Pa. 1y25

NICOLL'S PATENT SAFETY SWITCH

for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee
G. A. NICOLLS,
ja45 Reading, Pa.

TO RAILROAD COMPANIES AND MAN-

ufacturers of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside.

THOMAS & EDMUND GEORGE,

a45 N. E. cor. 12th and Market sts., Philad., Pa.

RAILROAD IRON.—THE SUBSCRIBER'S

New Rail Iron Mill at Phoenixville, Pa., is expected to be ready to go into operation by the 1st of September, and will be capable of turning out 30 to 40 tons or finished Rails per day. They are now prepared to receive orders to that extent, deliverable after the 1st of October next, for heavy rails of any pattern now in use, equal in quality and finish to best imported.

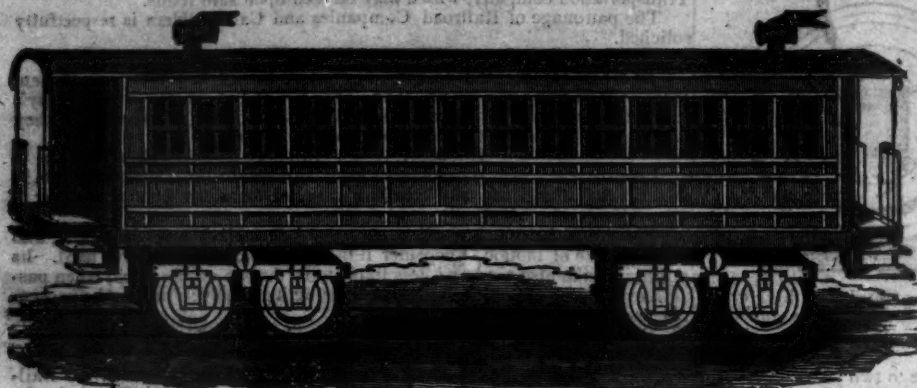
PIG IRON.—They are also receiving weekly 150 to 200 tons of No. 1 Phoenix Foundry Iron, well adapted for light castings.

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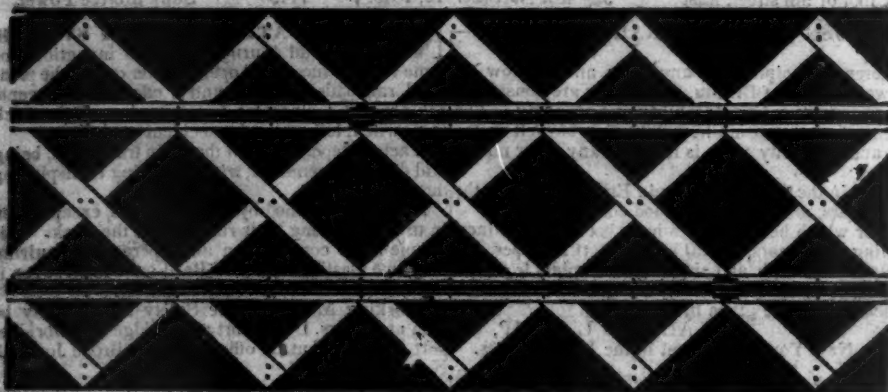


Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes.

THE HERRON RAILWAY TRACK,



As seen stripped of the top ballasting

A GOLD MEDAL AWARDED THE INVENTOR BY THE AMERICAN INSTITUTE.

THE UNDERSIGNED RESPECTFULLY invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trallis are 5 feet from centre to centre, while in the new construction they are only 2½ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trallis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes

but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trallis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.	
4,224 Timbers, 11 ft. long, 3 x 6 inches =	
68,096 ft. b.m., at \$10 =	\$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. =	
4,403 ft. b.m., at \$13 =	57 24
13,000 Spikes = 2,350 lbs. at 4½ cts. =	101 25
Workmanship free of patent charge =	600 00

Cost of one mile including the laying of the Rail = \$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.

Civil Engineer and Patentee.

No. 277 South Tenth St., Philadelphia. 334

FRANKLIN HOUSE,

No. 105 Chestnut Street, Philadelphia.

The undersigned takes the liberty of calling the attention of the readers of the Journal to the fact that the Office is removed from New York to the FRANKLIN HOUSE, Philadelphia, where he will be always pleased to meet and greet them. They will not only find a pleasant Reading Room, with lots of foreign periodicals, treating of Railroads and Machinery, but they will always find good-sized and airy rooms—clean beds—and a well supplied table. If they would have further proof of this, they have only to call, and judge for themselves, and much oblige the proprietor,

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FROM 1 1-4 TO 6 INCHES DIAMETER,
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These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

1y25

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